



www.wunder.it

PROFESSIONAL ELECTRONIC BABY SCALE

MOD. BABY02

USER MANUAL



Read this manual carefully before using the instrument

- 2. GENERAL RULES..... 2
- 3. SAFETY..... 3
- 4. SPECIFICATION 6
- 5. INDICATOR 6
- 6. INSTALLATION 7
- 7. ISTRUCTION FOR USE 8
- 8. PRINTER FUNCTIONS..... 11
- 9. ERROR MESSAGE 12
- 10. MAINTENANCE AND ASSISTANCE..... 13
- 11. CONFORMITY..... 13
- 12. IDENTIFICATION LABELS..... 13
- 13. SCRAPPING AND WASTE DISPOSAL 13
- 14. WARRANTY 14
- 15. INSTALLATION BABY HEIGHT ROD 15
- 16. INSTALL SECURITY BRACKETS..... 16

By choosing the **WUNDER** mod. **Baby02** professional electronic scale, you have purchased a high precision instrument.

Since over 40 years **Wunder** has placed its experience at the service of health. This instrument is compliant with national standards in hospitals and clinics with medical class I with measurement function and is calibrated in conformity with accuracy class III.

The instrument is characterised by the possibility of fixing the electronic terminal to the weighing platform by means of a column or else installing the terminal autonomously.

The instrument is equipped with a dual LCD electronic terminal with triple reading to simultaneously view Weight and weight difference calculation.

2. GENERAL RULES



Carefully read this manual before using the instrument as it supplies

important indications concerning OPERATING SAFETY AND MAINTENANCE.

The descriptions and illustrations supplied in this manual are not binding.

WUNDER reserves the right to modify its products as deemed convenient in order to approve them without being committed to update this publication.

Conventions: The following symbols have been used in this manual:



0476 EC TYPE APPROVAL FOR MEDICAL USE



METROLOGICAL CERTIFICATION AND APPROVAL



ACCURACY CLASS

ATTENTION!



PLACED BEFORE DETERMINING PROCEDURES. COMPLIANCE FAILURE CAN HARM THE OPERATOR OR PATIENT OR DAMAGE THE PRODUCT



WASTE DISPOSAL



TYPE B PARTS SUPPLIED



BATTERY POWER



INDICATION OF WEIGHT FUNCTIONALITY



INDICATION OF STABLE WEIGHT



INTERFERENCE COULD OCCUR NEAR THE APPLIANCES



DUAL INSULATION (CLASS II)

3. SAFETY



ATTENTION!

Operators must read this manual carefully, comply with the instructions it contains and become familiar with the correct use and maintenance procedures of the instrument.

- Retain this manual for consultation and as a help in staff training
- Do not overload the instrument beyond its maximum capacity
- Do not apply loads abruptly.
- Do not press the keys with sharp or pointed objects
- Do not try to open the instrument.
- Do not remove seals from the instrument.
- Do not short-circuit the battery terminals
- Use only the power supply provided by Wunder. Before using it, make sure that the local mains voltage is compatible with the voltage of the adapter shown on the identification plate
- Regularly check the integrity of the instrument's power cord and make sure it does not come in contact with hot appliances
- Make sure that the power cord does not create obstruction hazards
- Unplug the instrument before cleaning it
- Do not place the instrument in water or other liquids
- Perform maintenance and subsequent metric verifications regularly

3.1 Manufacturer's guide and declaration – electromagnetic immunity

Guide and Statement of manufacturer – Electromagnetic emissions		
The electronic scales BABY 02 model is scheduled for operation in the electromagnetic environment specified below. the customer and the user should ensure that it is used in that environment		
Emission test	Conformity	Guide to electromagnetic environment
RF Emission CISPR11	Group 1 Class B	The baby scales BABY 02 model uses RF energy only for its internal function. The refore its RF emissions are very low and probably not cause no interference in electrical equipment.
RF Emission CISPR11	Group 1, Class B	The baby scales BABY 02 is suitable for use in all sanitary and hospital buildings, connected to the low voltage public power supply network.
Harmonic emission	Class A	
Voltage fluctuations/ flicker emission	Compliant	

Guide and Statement of manufacturer-Electromagnetic Immunity

The electronic scales BABY 02 model is scheduled for operation in the electromagnetic environment specified below. the customer and the user should ensure that it is used in that environment.		
Immunity test	Compliance	Guide to electromagnetic environment
Electrostatic discharges (ESD) IEC/EN61000 - 4 - 2	6kV in contact 8kV in air	The floors should be made of wood, concrete or ceramic. If the floors are covered in synthetic material, the relative humidity should be maximum 30%.
Rapid transients/burst IEC/EN61000 - 4 - 4	2kV power supply	The power supply should be of the type used typically in commercial or hospital environments.
Surge IEC/EN61000 - 4 - 5	1kV differential mode	The power supply should be of the type used typically in commercial or hospital environments.
Voltage dips, short interruption and voltage variation IEC/EN61000 - 4 - 11	<5%UT for 0.5 cycle 40%UT for 05 cycle 70%UT for 25 cycle <5%UT for 5 sec	The power supply should be of the type used typically in commercial or hospital environments. Note=UT is the value of the voltage of the feed.
Power frequency Magnetic field IEC/EN61000 - 4 - 8	3A/m	


NOTE: UT is the value of the power supply voltage.



CAUTION

The medical device requires particular electromagnetic compatibility precautions and must be installed and used according to the information provided in the accompanying documents.

Manufacturer's guide and declaration - Electromagnetic emissions		
The electronic scales BABY 02 model can be used in the electromagnetic environment specified below. The customer or the user of the seat must ensure that it is used in compliance with the specifications below.		
Emissions test	Compliance	Guide to electromagnetic environment
Radiated/ conducted / emissions IEC/EN61000-4-6	3Vrms 150kHz to 80MHz(for appliances that are not life supporting)	Equipment in RF communications and mobile laptops should not be used near any part of the tooth, including cables, except when they meet the recommended separation distance calculated by the frequency applied to the transmitter.

Radiated/ conducted /emissions IEC/EN61000-4-3	3Vrms 150kHz to 80MHz(for appliances that are not life equipment)	Recommended separation distance $d = 1.2 \sqrt{P}$ from 80 MHz to 800 MHz $d = 2.3 \sqrt{P}$ from 800 MHz to 2.5 GHz where the P and maximum rated power output of the transmitter in Watts (W) according to the manufacturer of the transmitter and the recommended separation distance in meters (m). The intensity of the field of a fixed RF transmitters, as determined by an electromagnetic site, it could be lower than the level of compliance of each range of frequency b. You can check interference in proximity of equipment marked with the following symbol: 
---	--	---

With 80 MHz and 800 MHz is applied the higher frequency range. These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

a) The intensity of the field for fixed transmitters such as base stations for radiotelephone mobile and cordless phones) and land radio mobile, amateur radio equipment, radio transmitters in the AM and FM and TV transmitters cannot be made theoretically and with precision. To establish an electromagnetic environment due to fixed RF transmitters, it should consider the electromagnetic survey of the site. If the field strength measured at the place where you use the instrument exceeds the applicable level of compliance of the above, it should be placed under observation normal operation of the tooth device. If you notice abnormal performance, it may take additional measures as a different orientation or position of instrument.

of frequencies from 150 kHz to 80 MHz should be less than 3 V / m.

Recommended separation distances between portable radio equipment unity.

The scales **BABY 02** model is expected to operate in an electromagnetic environment in which they control the noise radiated RF. The customer or the tooth may be of help to prevent electromagnetic interference by ensuring a minimum distance between mobile communication devices and portable RF (transmitters) and unity, as recommended below, with respect to the maximum power output of equipment radio.

Output power rating of the transmitter W	Distance separating the frequency of the transmitter m		
	150 kHz a 80 MHz d = 1,2 \sqrt{P}	80 MHz a 800 MHz d = 1,2 \sqrt{P}	800 MHz a 2,5 GHz d = 2,3 \sqrt{P}
0,01	0,12	0,12	0,23
0,1	0,38	0,38	0,73
1	1,2	1,2	2,3
10	3,8	3,8	7,3
100	12	12	23

For transmitters with maximum rated power output not reported above, the recommended separation distance d in meters (m) can be calculated using the equation applicable to the frequency of the transmitter, where P and the maximum rated power output of the transmitter in Watt (W) according to the manufacturer of the transmitter.

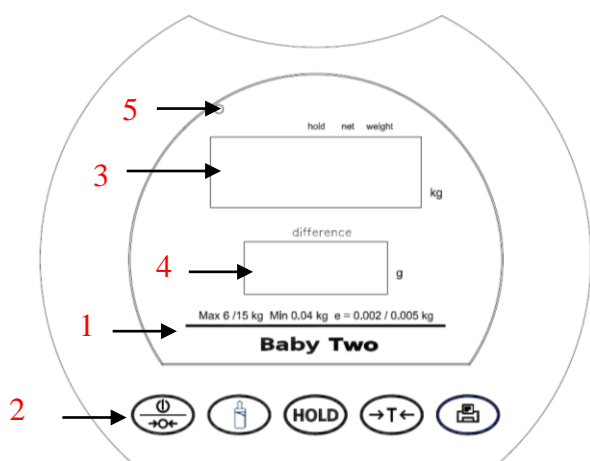
Note: With 80 MHz and 800 MHz is applied the higher frequency range.

These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects and people.

4. SPECIFICATION






Model	BABY 02
Capacity	Max 3/6kg, e=1/2g; Max 6/15kg, e=2/5g; Max 10/20kg, e=5/10g;
Approvazione OIML	Class III
Unit weight	kg
Display	Double LCD: 1 LCD 20mm weight with 5 active digits; 2 LCD 12mm
Dimensions	550 x 290 (DISH)
Key functions	ON/ZERO/OFF, HOLD, TARA, PRINT, MEMORY(MILK BOTTLE)
Power	Adapter 12 V - 2 A Rechargeable Batteries Pack- (OPTIONAL)
Temperature operation	5°C / 35°C

5. INDICATOR

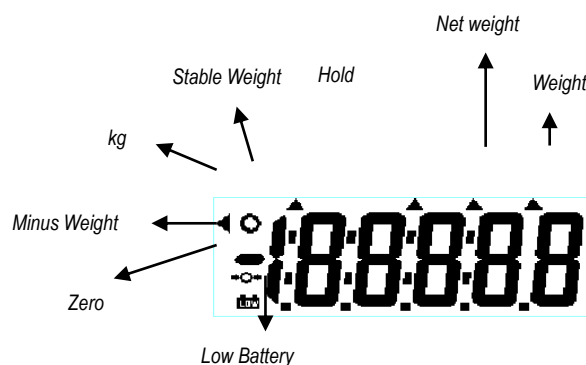


1. Weighing capacity and division
2. Key function
3. Main LCD: Weight
4. Second LCD automatically calculates the amount of Milk consumed
5. Power display

Key functions

Tasto	Description
	Key ON. To reset the display (OFF) long press 3 seconds. Zero the scale ($\pm 2\%$ of full capacity)
	To hold weighing result on the display/ determine stable weighing value.
	Tare un-wanted weight.
	Function Weight-Milk: automatically calculates the amount of Milk consumed
	Print out data.

Function Display Symbols



Stable symbol: To indicate that the weight is stable.

Minus weight: Weight under zero.

Zero symbols: Weight is at zero point.

Low battery: Battery need to charge or replaced.

6. INSTALLATION

After removing the instruments from the packing check the integrity and right contents

Put the scale far from source from of heat e vibration.

Put the scale on stable surface.

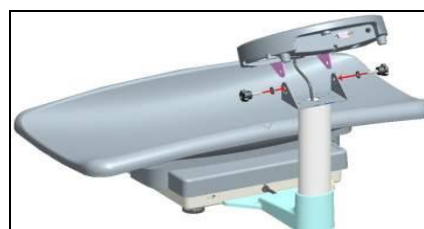
Indicator assembly (is not assembled)

Run the cable through the tube

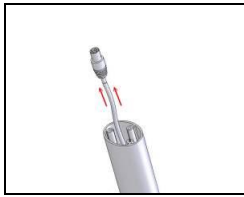


Run the cable through the tube. Setup the bracket.

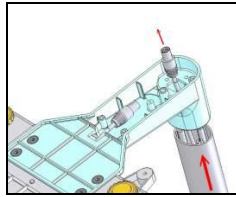
Screw to the holes.



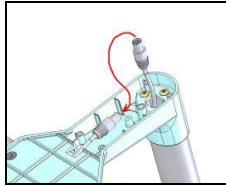
Indicator Column assembly with platform



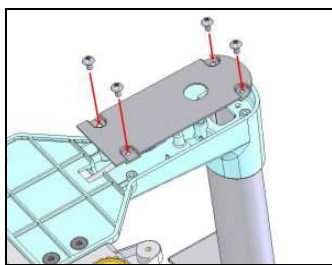
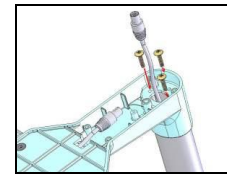
1. Run the cable through the column.
cable



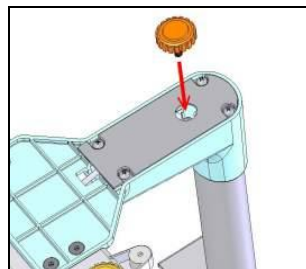
2. Connect the jack



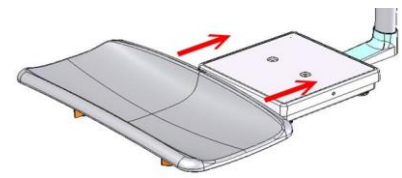
3. Tighten the three screws of the base by turning



4. Align the platform on the base
and tighten the screws



5. Fit the adjustable foot.



6. Insert weight tray

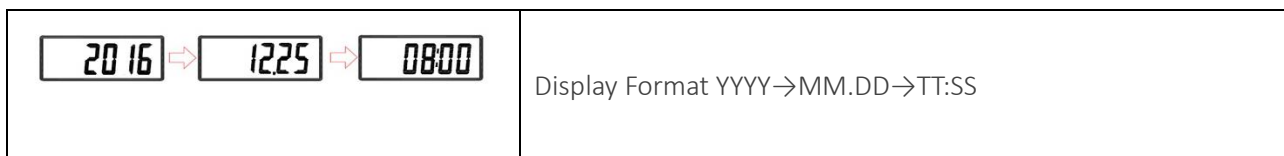
7. INSTRUCTION FOR USE

Time setting

Long press PRINT key for 3 seconds to enter the TIME SETTING mode, beginning with the top row, with the flashing digit. Press PRINT key after successful change to move to next step.

EX: To input Dec 25, 2016:00am.

	<p>Enter year: Using TARE keys to decrease the value, press HOLD key to move to next digit. Press PRINT key after successful entry to move to next stage.</p>
	<p>Enter date: Using TARE keys to decrease the value, press HOLD key to move to next digit. Press PRINT key after successful entry to move to next stage.</p>
	<p>Enter time: Using TARE keys to decrease the value, press HOLD key to move to next digit. Press PRINT key after successful setting.</p>


**ATTENTION!**

For proper charging of the battery pack, connect the instrument to a power outlet for at least 8 hours

WEIGHING

Switch on the scale using  key. The diagnostic scale self-check is performed and the software version is displayed.


The „0,00 kg” weight displays on the screen, now the scale is ready for weighing.

Note: If display is not at 0.0kg while switching power on. Kindly press  key to zero the scale which can be used at any time to zero the scale.


HOLD FUNCTION

BABY02 is provided with the integrated hold function (determination of average value). It enables baby to be weighed accurately even they keep moving.


Once the HOLD key is pressed, the weight reading will remain on the display after the item has been removed from the scale so the reading can easily be read.

Switch ‘ON’ the scale using . The diagnostic self-checks is performed. The scale is ready for weighing when the „0.0 kg” displays on the screen.

Place the baby in the center of the tray gently.

Press . When the triangle is flashing on the display, the scale records the fluctuating weight values and then calculates average weight and displays the result on the screen.

Remove the baby from the scale tray. The baby’s weight reading will remain on the display.

Press  again to return the scale to the normal weighing mode.

HOLD function can be activated before or after putting the weight on the baby tray. But in case of weighing


unstable, it is recommended to press  before put baby on the baby tray.

TARA FUNCTION

Tare allows the user to zero the instrument to cancel the weight of a container/ clothes from the reading of the instrument, thus giving the true weight of the product/ person being tested.

Turn on the scale using  key.

When  displays on the screen and scale beeps twice, Place the object (clothes) need to be tare on the tread platform.

Press  after the weight stabilizes and stable sign appears on the display.



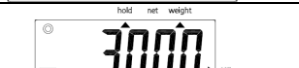







Display will return to 

Place the item/ baby need to be weighed (without removing the tare object). The weighing result is the Net weight of the item / baby.



To delete the saved tare value, remove the tare object from the tray and press  key again

Using memory function (Milk difference)

This function allows automatically calculates the amount of Milk consumed

<p>After weighting, the top row display will show the weight, for example: 3.000kg.</p>	
<p>Press  key to store the first weight, the second display will show "m1".</p>	
<p>And then press  again to return to normal mode.</p>	
<p>When the second weight be stored, (for example: 3.180kg), press  key</p>	
<p>the display will show the difference between the first and second weight.</p>	
<p>Press  key to go back to normal mode, and clear the "m1" data.</p>	

Note:

- This function is working only with continues on power. To cancel this function press  and 
- By AC adapter: the scale still ON always.
- By battery: after not using of 3 minutes, the scale will OFF automatically, please keep touch by hand the tray.
- If the difference value is over then 1000g, the display will show

8. PRINTER FUNCTIONS

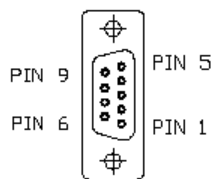
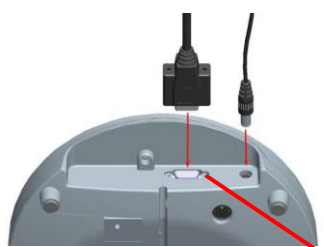
Weight can be printed for records using RS232 interface cable.

After weighing simply press PRINT key to print out the results.

The format presented below is the standard format of results print-out and cannot be changed.

More informations: info@wunder.it or service@wunder.it

<table style="width: 100%; border: 1px solid black;"> <tr> <td style="padding: 5px;">GROSS WEIGHT</td> <td style="padding: 5px;">10.00kg</td> </tr> <tr> <td style="padding: 5px;">TARE WEIGHT</td> <td style="padding: 5px;">1.00kg</td> </tr> <tr> <td style="padding: 5px;">NET WEIGHT</td> <td style="padding: 5px;">9.00kg</td> </tr> </table>	GROSS WEIGHT	10.00kg	TARE WEIGHT	1.00kg	NET WEIGHT	9.00kg	<p>Set parameters of the scale interface on the connected device. It is not possible to change the scale parameters.</p> <p>Baud rate: 9600 bps</p> <p>Parity check: None Data length: 8 bits Stop bit: 1 bit Handshake: RTS/CTS Data code: ASCII</p>
GROSS WEIGHT	10.00kg						
TARE WEIGHT	1.00kg						
NET WEIGHT	9.00kg						



PIN	SIGNAL
2	TX
3	RX
5	GND

Connector RS232

Serial RS232

Connecting with PC

Start Hyper Terminal

Start Hyper Terminal program from clicking

Start Menu → Programs → Accessories → Communication → Hyper Terminal.

New Connection Description

Give new connection a name then click OK.

Select Your COM Port

Click Connect to select your COM port. Usually there's only one option for select. Then click OK.

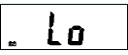
Port Settings

Click Bits per second to set up rate at 9600, Data bits at 8, Parity at None, Stop bits at 1 and Flow control at Hardware. Then click OK to complete your setting.

Output Data

When press the PRINT key to output data from scale to PC or an Optional Printer.

Instruction for charging and connecting







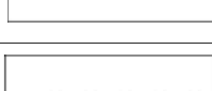
If  prompt displays on the LCD, please charge the scale with exclusive adaptor.

Locate adaptor plug on the rear side of indicator.

The battery should be recharged at least every 3 months regardless if it is used or not. After a long period in storage, e.g. over 3 months, the battery should run a full cycle (charge/discharge) to allow it to restore to full capacity.



9. ERROR MESSAGE

ERROR MESSAGE	REASON	ACTION
	Low Battery: This warning shows that the voltage of battery is too low to use	Please replace a new battery or plug the AC adaptor for operation.
	Overload: The total load exceeds the maximum capacity of scale	Please reduce the loading and try again.
	Counting error (too high): Indicates that the signal from the load cell/s is too height	This error is normally caused by a serious fault on the scales such as a faulty load cell or wiring. Please contact the local service representative.
	Counting error (too low): Indicates that the signal from the load cell/s is too low	This error is normally caused by a serious fault on the scales such as a faulty load cell or wiring. Please contact the local service representative.
	Zero count over calibration zero range +10% while power on	Please re-calibrate the instrument.
	Zero count under calibration zero range -10% while power on	Please re-calibrate the instrument.
	EEPROM Error: Indicates that there is a fault with the scales software	This error is normally caused by a serious fault on the scales such as a faulty load cell or wiring. Please contact the local service representative.

10. MAINTENANCE AND ASSISTANCE

For better and longer duration of the product it should receive thorough general cleaning periodically.

The instrument must be cleaned with a soft cloth moistened with water or neutral detergent, without using solvents or abrasive substances.

If the instrument remains idle for a long period, remove the batteries from the terminal.

During shipping, make sure not to subject the instrument to blows or excessive mechanical stress.

In case of repairs or assistance, contact your dealer or an authorised service centre contacting service2@wunder.it or sales@wunder.it.

11. CONFORMITY

WUNDER MODEL BABY02 ELECTRONIC SCALE SERIAL N°

We hereby certify that this instrument has been inspected and has successfully passed the functional test. It complies with the following standards and directives:

EN 45501 / EN60601-1-2 / EN60601-1

93/42/EEC – Medical Devices Directive

12. IDENTIFICATION LABELS

   <p>Manufacturer: Wunder Sa. Bi. srl Via vecchia per Monza 20 20056 Trezzo sull'Adda (MI) -Italy</p> <p>M 17 CE 0122 Model Baby 02 (WU150) DK 0199.336 REV 01 Matr. C16012442</p> <p>Max 6/15kg T = -15kg e= 2/5g 5°C / 35°C</p>	<p>WUNDER Sa.Bi. S.r.L     </p> <p>Model :BABY 02 (WU 150) 12V 2A</p> <p>Internally powered equipment with battery or supplied by external model AD-8057 (DK)</p> <p>Internamente alimentata con batteria o da AC/DC alimentatore esterno modello AD-8057 (DK)</p> <p>SER. NR.</p>
<p>BABY 02 VANO BATTERIE Per la sostituzione della batteria (modello ricaricabile tipo :RETC 7,2 V 2000 mAh vedere il manuale di istruzioni) To replace the battery (rechargeable sealed type :RETC 7,2 V 2000 mAh see the manual)</p>	<p>DISPOSITIVO CLASSE Im CON FUNZIONE DI MISURA CONFORME ALLA DIRETTIVA 93/42 CEE</p> <p>CE 0476</p>

13. SCRAPPING AND WASTE DISPOSAL

If set aside for a long period, protect those parts which could be damaged due to dust build-up

Scrapping

When you decide to no longer use this item, we recommend making it unusable. We also recommend making those parts which could be sources of danger harmless

Waste disposal  EU 2002/96/EC

This product complies with the EU Directive 2002/96/EC. The symbol of the crossed-out waste bin on the appliance indicates that the product, needing to be treated separately from household waste, at the end of

its useful life must be completed in a separate collection facility for electric and electronic appliances or returned to the dealer upon purchase of a new equivalent appliance. The user is responsible for bringing the appliance to an appropriate collection structure at the end of its life. Appropriate separate collection and sending the appliance for recycling, treatment and environmentally compatible waste disposal contributes to avoid possible negative effects on the environment and health and favours the recycling of the materials the product is made of.

For more detailed information regarding available collection systems, contact your local waste disposal service or the shop where the product was purchased.

As consumers, you are obliged by law to return used or dead batteries. You may deposit old batteries at public collection spots in your town or else with any battery dealer who has placed specific collectors for this purpose. Even when scrapping electric and electronic appliances, they must be removed and deposited in specific collectors.

NOTE: The following symbols indicate the presence of harmful substances

Pb Pb = batteries containing Lead

Cd Cd = batteries containing
Cadmium

Hg Hg = Batteries containing
Mercury



ATTENTION!

Do not throw electric parts and used batteries away with household waste. Dispose of the batteries by means of your closest collection centres.

14. WARRANTY

This certificate must be kept until the warranty has expired.

It must be presented together with the invoice, tax receipt or delivery note providing the name of the dealer and date of purchase whenever a technical intervention is required. Otherwise the user will lose any warranty rights.

The warranty takes effect from the date of purchase and is valid during the entire period foreseen by the current catalogue/pricelist.

By warranty we mean the replacement or repair free of charge of parts making up the appliance which, at the discretion of the manufacturer, are deemed faulty from the origin; Wunder therefore has the faculty of repairing or replacing the item.

The warranty does not cover:

- shipping faults, damage caused by falls, carelessness or tampering
- damage caused by incapability of using the appliance and of its improper use
- damage caused by an insufficient or inadequate electrical system or alterations resulting from environmental, climatic or other types of conditions
- damage due to incorrect installation of the appliance and repairs carried out by unauthorised personnel
- Interventions at home for convenience controls or presumed defects

- Routine maintenance and that which can be considered normal wear from use
- consumables such as: power supplies, batteries, keyboards, plates, wheels, heads, rolls, load cells faulty due to blows or overloads

Service can also be refused when the appliance has been changed or transformed in any way.

In case of interventions at one's home, the customer must pay the fixed fee; if however the appliance is repaired at an authorised Wunder Service Centre, expenses and relative travel risk are borne by the user.

Wunder will not be held liable for damage of any nature caused directly or indirectly to persons, animals or objects resulting from failure to comply with all the instructions indicated in this manual or anyway resulting from improper use.

The Court of Bergamo has jurisdiction in case of any dispute

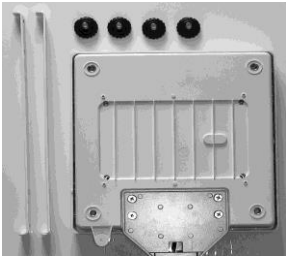

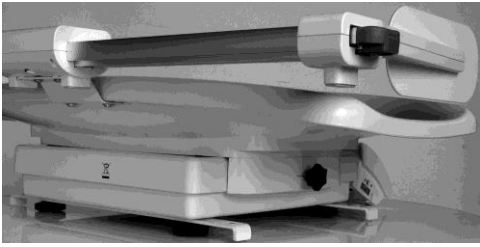
15. INSTALLATION BABY HEIGHT ROD



For the installation of digital height rod proceed as follow:

	<p>Fig.A</p>	
	<p>Fig.B</p>	
	<p>Fig.C</p>	

16. INSTALL SECURITY BRACKETS

 <p>FIG 1</p>	<p>1. LOOSEN THE PLATE AND REMOVE THE FEET. (fig.1)</p>
 <p>FIG. 2</p>	<p>2. PLACE THE BAR AND SCREW THE ADJUSTABLE FEET. (fig.2)</p>
 <p>FIG.3</p>	<p>3. TURN THE SCALE AND MOUNT THE PLATE . (fig 3)</p>